Terms used **image analysis** and **feature vector** Found **50** of **156,259**

Sort results by: relevance

Display results: expanded form

Save results to a Binder

Search Tips

Open results in a new window

Try an Advanced Search

Try this search in The ACM Guide

Results 1 - 20 of 50 Result page: **1** 2 3 next

Relevance scale

1 Data clustering: a review

A. K. Jain, M. N. Murty, P. J. Flynn

September 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 3

Full text available: pdf(636.24 KB) Additional Information: full citation, abstract, references, citings, index terms, review

Clustering is the unsupervised classification of patterns (observations, data items, or feature vectors) into groups (clusters). The clustering problem has been addressed in many contexts and by researchers in many disciplines; this reflects its broad appeal and usefulness as one of the steps in exploratory data analysis. However, clustering is a difficult problem combinatorially, and differences in assumptions and contexts in different communities has made the transfer of useful generic co ...

Keywords: cluster analysis, clustering applications, exploratory data analysis, incremental clustering, similarity indices, unsupervised learning

2 Document and images analysis: Accuracy improvement of automatic text classification based on feature transformation

Guowei Zu, Wataru Ohyama, Tetsushi Wakabayashi, Fumitaka Kimura

November 2003 **Proceedings of the 2003 ACM symposium on Document engineering**

Full text available: pdf(136.78 KB) Additional Information: full citation, abstract, references, index terms

In this paper, we describe a comparative study on techniques of feature transformation and classification to improve the accuracy of automatic text classification. The normalization to the relative word frequency, the principal component analysis (K-L transformation) and the power transformation were applied to the feature vectors, which were classified by the Euclidean distance, the linear discriminant function, the projection distance, the modified projection distance and the SVM.

Keywords: automatic text classification, principal component analysis, variable transformation

3 Statistical techniques for free-text processing

John M. Morris

June 1980 **ACM SIGLASH Newsletter**, Volume 13 Issue 2

Full text available: pdf(2.00 MB) Additional Information: full citation, abstract, references

Over the past eight years we have developed statistical methods for characterizing, classifying, and retrieving brief natural-language messages. Our goal was to provide a tool for people who had to deal with enormous numbers of heterogeneous documents, using ill-defined criteria of relevance and interest. Initially, we worked with a large, general-purpose system, the On-Line Pattern Analysis and Recogition System (OLPARS). More recently, we have developed a system called Message Extraction Throu ...

4 In search of information in visual media
Amarnath Gupta, Simone Santini, Ramesh Jain
December 1997 **Communications of the ACM**, Volume 40 Issue 12

Full text available: pdf(1.58 MB) Additional Information: full citation, references, citings, index terms

5 Applications: Fast retrieval of high-dimensional feature vectors in P2P networks using compact peer data summaries
Wolfgang Müller, Andreas Henrich
November 2003 **Proceedings of the 5th ACM SIGMM international workshop on Multimedia information retrieval**

Full text available: pdf(378.07 KB) Additional Information: full citation, abstract, references, index terms

The retrieval facilities of most Peer-to-Peer (P2P) systems are limited to queries based on a unique identifier or a small set of keywords. The techniques used for this purpose are hardly applicable for content-based image retrieval (CBIR) in a P2P network. Furthermore, we will argue that the curse of dimensionality and the high communication overhead prevent the adaptation of multidimensional search trees or fast sequential scan techniques for P2P CBIR. In the present paper we will propose two ...

6 Computational strategies for object recognition
Paul Suetens, Pascal Fua, Andrew J. Hanson
March 1992 **ACM Computing Surveys (CSUR)**, Volume 24 Issue 1

Full text available: pdf(6.37 MB) Additional Information: full citation, abstract, references, citings, index terms, review

This article reviews the available methods for automated identification of objects in digital images. The techniques are classified into groups according to the nature of the computational strategy used. Four classes are proposed: (1) the simplest strategies, which work on data appropriate for feature vector classification, (2) methods that match models to symbolic data structures for situations involving reliable data and complex models, (3) approaches that fit models to the photometry and ...

Keywords: image understanding, model-based vision, object recognition

7 Poster: Combination of Fisher scores and appearance based features for face recognition
Ling Chen, Hong Man
November 2003 **Proceedings of the 2003 ACM SIGMM workshop on Biometrics methods and applications**

Full text available: pdf(422.83 KB) Additional Information: full citation, abstract, references, index terms

A novel feature generation scheme which combines multiclass mapping of Fisher scores and appearance based features for face recognition (FR) is proposed in this paper. Multi-class mapping of Fisher scores is based on partial derivative analysis of parameters of hidden Markov model (HMM), and appearance based features are obtained directed from face

images. Linear discriminant analysis (LDA) is used to analyze the feature vectors generated under this scheme. Recognition performance improvement is ...

Keywords: Fisher score, hidden Markov model, linear discriminant analysis

8 Content-based image retrieval for multimedia databases: Image database retrieval utilizing affinity relationships

Mei-Ling Shyu, Shu-Ching Chen, Min Chen, Chengcui Zhang, Kanoksri Sarinnapakorn

November 2003 **Proceedings of the 1st ACM international workshop on Multimedia databases**

Full text available: pdf(554.57 KB) Additional Information: full citation, abstract, references, citings, index terms

Recent research effort in Content-Based Image Retrieval (CBIR) focuses on bridging the gap between low-level features and high-level semantic contents of images as this gap has become the bottleneck of CBIR. In this paper, an effective image database retrieval framework using a new mechanism called the Markov Model Mediator (MMM) is presented to meet this demand by taking into consideration not only the low-level image features, but also the high-level concepts learned from the history of user's ...

9 Human-machine perceptual cooperation

Francis K. H. Quek, Michael C. Petro

May 1993 **Proceedings of the SIGCHI conference on Human factors in computing systems**

Full text available: pdf(972.26 KB) Additional Information: full citation, abstract, references, index terms

The Human-Machine Perceptual Cooperation (HMPC) paradigm combines a human operator's high level reasoning with machine perception to solve spatio-perceptual intensive problems. HMPC defines two channels of interaction: the focus of attention (FOA) by which the user directs the attention of machine perception, and context. As the user moves the FOA across a display via a pointing device, a smart cursor operates proactively on the data, highl ...

Keywords: document image analysis, human-computer interaction, map conversion, shared perception, telerobotics

10 Database theory, technology and applications (DTTA): Integrating similarity-based queries in image DBMSs

Solomon Atnafu, Richard Chbeir, David Coquil, Lionel Brunie

March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**

Full text available: pdf(381.23 KB) Additional Information: full citation, abstract, references, index terms

Until recently, issues in image retrieval have been handled in DBMSs and in computer vision as separate research works. Nowadays, the trend is towards integrating the two approaches (content- and metadata-based) for multi-criteria image retrieval. However, most existing works and proposals in this domain lack a formal framework to deal with a multi-criteria query. In this paper, we introduce a formal framework to address this subject of image retrieval under an ORDBMS model. We first propose an ...

Keywords: image DBMS, multi-criteria retrieval, multimedia algebra

11 Model-based recognition in robot vision

Roland T. Chin, Charles R. Dyer

March 1986 **ACM Computing Surveys (CSUR)**, Volume 18 Issue 1

Full text available: pdf(4.94 MB) Additional Information: full citation, abstract, references, citings, index terms, review

This paper presents a comparative study and survey of model-based object-recognition algorithms for robot vision. The goal of these algorithms is to recognize the identity, position, and orientation of randomly oriented industrial parts. In one form this is commonly referred to as the "bin-picking" problem, in which the parts to be recognized are presented in a jumbled bin. The paper is organized according to 2-D, 2½-D, and 3-D object representations, which are used as the basis for ...

12 Graph-based hierarchical conceptual clustering

Istvan Jonyer, Diane J. Cook, Lawrence B. Holder

March 2002 **The Journal of Machine Learning Research**, Volume 2

Full text available: pdf(228.03 KB) Additional Information: full citation, abstract, references, index terms

Hierarchical conceptual clustering has proven to be a useful, although under-explored, data mining technique. A graph-based representation of structural information combined with a substructure discovery technique has been shown to be successful in knowledge discovery. The SUBDUE substructure discovery system provides one such combination of approaches. This work presents SUBDUE and the development of its clustering functionalities. Several examples are used to illustrate the validity of the app ...

Keywords: cluster analysis, clustering, concept formation, graph match, structural data

13 Image Retrieval from the World Wide Web: Issues, Techniques, and Systems

M. L. Kherfi, D. Ziou, A. Bernardi

March 2004 **ACM Computing Surveys (CSUR)**, Volume 36 Issue 1

Full text available: pdf(294.13 KB) Additional Information: full citation, abstract, references, index terms

With the explosive growth of the World Wide Web, the public is gaining access to massive amounts of information. However, locating needed and relevant information remains a difficult task, whether the information is textual or visual. Text search engines have existed for some years now and have achieved a certain degree of success. However, despite the large number of images available on the Web, image search engines are still rare. In this article, we show that in order to allow people to profi ...

Keywords: Image-retrieval, World Wide Web, crawling, feature extraction and selection, indexing, relevance feedback, search, similarity

14 Visual information retrieval

Amarnath Gupta, Ramesh Jain

May 1997 **Communications of the ACM**, Volume 40 Issue 5

Full text available: pdf(676.39 KB) Additional Information: full citation, references, citings, index terms, review

15 Oral I: Face recognition with Multilevel B-Splines and Support Vector Machines

Manuele Bicego, Gianluca Iacono, Vittorio Murino

November 2003 **Proceedings of the 2003 ACM SIGMM workshop on Biometrics methods and applications**

Full text available: pdf(427.53 KB) Additional Information: full citation, abstract, references, index terms

This paper presents a new face recognition system, based on Multilevel B-splines and

Support Vector Machines. The idea is to consider face images as heightfields, in which the height relative to each pixel is given by the corresponding gray level. Such heightfields are approximated using Multilevel B-Splines, and the coefficients of approximation are used as features for the classification process, which is performed using Support Vector Machines. The proposed approach was thoroughly tested, usi ...

Keywords: Multi Level B-splines, Support Vector Machines, face recognition

16 A model of multimedia information retrieval

Carlo Meghini, Fabrizio Sebastiani, Umberto Straccia

September 2001 **Journal of the ACM (JACM)**, Volume 48 Issue 5

Full text available: pdf(5.69 MB) Additional Information: full citation, abstract, references, citings, index terms

Research on multimedia information retrieval (MIR) has recently witnessed a booming interest. A prominent feature of this research trend is its simultaneous but independent materialization within several fields of computer science. The resulting richness of paradigms, methods and systems may, on the long run, result in a fragmentation of efforts and slow down progress. The primary goal of this study is to promote an integration of methods and techniques for MIR by contributing a conceptual model ...

Keywords: Description logics, fuzzy logics, multimedia information retrieval

17 Image similarity search systems: A compact and efficient image retrieval approach based on border/interior pixel classification

Renato O. Stehling, Mario A. Nascimento, Alexandre X. Falcão

November 2002 **Proceedings of the eleventh international conference on Information and knowledge management**

Full text available: pdf(890.44 KB) Additional Information: full citation, abstract, references, citings, index terms

This paper presents \bic (*B*order/*I*nterior pixel *C*lassification), a compact and efficient CBIR approach suitable for broad image domains. It has three main components: (1) a simple and powerful image analysis algorithm that classifies image pixels as either border or interior, (2) a new logarithmic distance (*dLog*) for comparing histograms, and (3) a compact representation for the visual features extracted from images. Experimental results show that the *BIC* appro ...

Keywords: CBIR, color histogram, content-based image retrieval, distance function, image analysis

18 Integrating symbolic images into a multimedia database system using classification and abstraction approaches

Aya Soffer, Hanan Samet

December 1998 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 7 Issue 4

Full text available: pdf(227.30 KB) Additional Information: full citation, abstract, index terms

Symbolic images are composed of a finite set of symbols that have a semantic meaning. Examples of symbolic images include maps (where the semantic meaning of the symbols is given in the legend), engineering drawings, and floor plans. Two approaches for supporting queries on symbolic-image databases that are based on image content are studied. The classification approach preprocesses all symbolic images and attaches a semantic classification and an associated certainty factor to each object that ...

Keywords: Image indexing, Multimedia databases, Query optimization, Retrieval by content, Spatial databases, Symbolic-image databases

19 The space of human body shapes: reconstruction and parameterization from range scans

Brett Allen, Brian Curless, Zoran Popović

July 2003 **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 3

Full text available: pdf(6.74 MB) Additional Information: full citation, abstract, references, citings, index terms

We develop a novel method for fitting high-resolution template meshes to detailed human body range scans with sparse 3D markers. We formulate an optimization problem in which the degrees of freedom are an affine transformation at each template vertex. The objective function is a weighted combination of three measures: proximity of transformed vertices to the range data, similarity between neighboring transformations, and proximity of sparse markers at corresponding locations on the template and ...

Keywords: deformations, morphing, non-rigid registration, synthetic actors

20 Automatic metadata creation: Bibliographic attribute extraction from erroneous references based on a statistical model

Atsuhiro Takasu

May 2003 **Proceedings of the 3rd ACM/IEEE-CS joint conference on Digital libraries**

Full text available: pdf(345.42 KB) Additional Information: full citation, abstract, references, citings, index terms

In this paper, we propose a method for extracting bibliographic attributes from reference strings captured using Optical Character Recognition (OCR) and an extended hidden Markov model. Bibliographic attribute extraction can be used in two ways. One is reference parsing in which attribute values are extracted from OCR-processed references for bibliographic matching. The other is reference alignment in which attribute values are aligned to the bibliographic record to enrich the vocabulary of the ...

Results 1 - 20 of 50 Result page: **1** 2 3 next